

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP02/07377

A. CLASSIFICATION OF SUBJECT MATTER  
Int.Cl<sup>7</sup> F24F3/14, F24F7/08

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
Int.Cl<sup>7</sup> F24F3/14, F24F7/08Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  

|                           |           |                            |           |
|---------------------------|-----------|----------------------------|-----------|
| Jitsuyo Shinan Koho       | 1926-1996 | Toroku Jitsuyo Shinan Koho | 1994-2002 |
| Kokai Jitsuyo Shinan Koho | 1971-2002 | Jitsuyo Shinan Toroku Koho | 1996-2002 |

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No.      |
|-----------|---|----------------------------|
| X         | JP 8-313186 A (Mitsubishi Electric Corp.),<br>29 November, 1996 (29.11.96),<br>Full text; all drawings<br>(Family: none)  | 1-3, 5-7, 9<br>4, 8, 10-13 |
| X         | Microfilm of the specification and drawings annexed<br>to the request of Japanese Utility Model Application<br>No. 030488/1980 (Laid-open No. 132471/1981)<br>(Mitsubishi Electric Corp.),<br>07 October, 1981 (07.10.81),<br>Full text; all drawings<br>(Family: none) | 1-3, 5-7, 9<br>4, 8, 10-13 |
|           |   |                            |
|           |   |                            |

 Further documents are listed in the continuation of Box C.  See patent family annex.

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|--|--|
| * Special categories of cited documents: |  |
| "A"                                      | document defining the general state of the art which is not considered to be of particular relevance   |
| "E"                                      | earlier document but published on or after the international filing date   |
| "L"                                      | document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  |
| "O"                                      | document referring to an oral disclosure, use, exhibition or other means   |
| "P"                                      | document published prior to the international filing date but later than the priority date claimed   |
| "T"                                      | later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention  |
| "X"                                      | document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone   |
| "Y"                                      | document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art |
| "&"                                      | document member of the same patent family  |

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| Date of the actual completion of the international search<br>09 September, 2002 (09.09.02) | Date of mailing of the international search report<br>24 September, 2002 (24.09.02) |
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|  |                    |
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| Name and mailing address of the ISA/<br>Japanese Patent Office | Authorized officer |
| Facsimile No.  | Telephone No.      |

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## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No. |
|-----------|--|-----------------------|
| A         | Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 122361/1978 (Laid-open No. 39434/1980) (Mitsubishi Electric Corp.), 13 March, 1980 (13.03.80), Full text; all drawings (Family: none) | 1-13                  |